They are confined almost wholly, however, to the crustacea, mollusks, radiates, and marine protozoa. Of insects there is a very small showing—only enough to represent scantily the classification of that immense class. This is partly because it is unwise to display insects freely, since exposure to the light causes their colours to fade, but is due chiefly to lack of material, owing to the fact that no entomologists of note have been especially interested in the progress of this museum.

On the other hand, the special tastes of Profs. Verrill, S. I. Smith, J. H. Emerton, and others, and the intimate relations the Museum (through these gentlemen) have sustained with the Smithsonian Institution and the U.S. Fish Commission, have brought the department of marine invertebrates to an almost unrivalled perfection. In no room does the casual visitor linger longer than in this one; while its contents are unusually interesting to specialists, because of the large proportion of type-specimens included. In many instances these are unique; as, for example, some of those beautiful orange and scarlet gorgonias or "sea-fans"—flat, branchless, mossy growths of calcareous matter, which resemble great masses of pressed seaweed. One case is wholly filled with these corallines; and it is doubtful whether any museum in the world can make a better showing of them.

The corals, also, are very fine, embracing many rare and even unique forms, as might be expected, remembering Prof. J. D. Dana's labours in that direction; so that only the Museum of Comparative Zoology equals this part of the cabinet.

In the way of deep-sea forms of crustaceans, and echinoderms also, a great number of novel species are publicly displayed, which were procured in recent dredgings by the Fish Commission. Among them stand large jars holding alcoholic remains of the giant cuttle-fishes upon which Verrill has written so many learned pages; and overhead hang Emerton's paper models of Architeuthis and a huge octopus, which half the visitors take to be real devil-fishes stuffed, and gaze at with fearful curiosity.

The remaining rooms on this floor are occupied as laboratories or lecture-rooms by Profs. Verrill and Smith, of the Sheffield Scientific School.

The fourth story contains storerooms filled with fossils, a collection (on exhibition) of about two thousand antiquities of great value from Central America, and a fair show of archæological relics, the most notable part of which is the pottery from the mounds of the Ohio valley.

But the glory of the Yale Museum is its palæontological treasures, brought together wholly by Prof. O. C. Marsh. The few representatives of this collection visible in the second-floor rooms and in the hall-ways are alone sufficient to stamp the museum as pre-eminent in this line; but they are merely an advertisement of what cellar and attic contain. It is not too much to say that, in respect to vertebrate palæontology (outside of fishes), this museum is not surpassed in the world. Where other collections own fragments or single skeletons, Prof. Marsh boasts scores or hundreds of individuals, while many extinct races are known only by their fossil remains in his possession.

This is the result of wisely-directed energy, and the ability to spend money promptly and liberally. Marsh's frequent expeditions to the far west are well known to geologists. Many car-loads resulting from these were not only shipped home by himself, but his agents have been forwarding enormous quantities ever since from Wyoming and Colorado "quarries."

To Prof. Marsh's personal collection somewhat has been added at the museum by the U S. Geological Survey, which will become the publisher of the outcome of his studies now in progress. A score or so of assistants are constantly on duty, either in study, or in the mechanical work of skilfully extracting fossils from the rocky matrix; in matching and mounting, by the aid of wire, clay, and plaster, for permanent preservation, the often badly-broken bones of some antique brute whose extinction most of the world can accept with resignation; or in making casts, models, and drawings of fossils, original and "restored."

Several quarto volumes are already under weigh, and scarcely an issue of the *American Journal of Science* appears without an advance note of some special discovery in vertebrate palæontology, anticipating the completer descriptions to be made from this museum's rich materials.

NOTES

THE new Lord Rector of Glasgow University, Dr. Lushington, was installed on the 26th ult. The address, which was in every way worthy both of the University and of the Lord Rector, contrasted strongly, with its calm, deep utterances and its grasp of the needs of a complete academic life, with the more or less political utterances to which we have been too much accustomed on similar occasions. We give the following quotation touching scientific work at a University:—"Communion of mind with mind is the most powerful help to mental growth, calling forth and expanding the intellectual powers which it is the duty of every free man to cultivate; in such intercourse he who gives receives, and is made richer in giving what awakens new life in another. By fellowship of this kind toil is sweetened and obstacles overcome. What is the history of the greatest inventors and discoverers the world has seen, but a firm defiance of difficulties and discouragements? And who that ever honestly faced any difficult problem, and 'oft foiled, oft rose' in the struggle has failed to gain at last the meed of hard-won victory? The rapture of Balboa, when from a peak of Darien he first gazed on the Pacific, is even less touching than that austere joy, of contemplation destined to those who by steadfast and painful efforts, long seemingly unrewarded, have wrested from nature some hitherto unguessed secret, some truth which illumines and brings into closer union other familiar but as yet unconnected aspects of knowledge. When, after years of doubtful poring, the light flashed upon Newton which was for ever to make clear to man the dynamics of the heavenly bodies, showing how the same law sways every leaf that flutters in the gale and the remotest star-clusters, we can well conceive how the ecstacy of wonder and delight was a disturbing presence that overpowered him, and made him request a friend to finish the calculation he had begun. And every generation, every decade, almost every year, opens new vistas through which the piercing eye, armed with weapons inherited from earlier conquests, may look forward bright in the hope of adding something more to the store of accomplished good to mankind; for in knowledge, as in nature, nothing is unfruitful. Such hope cheered and upheld many daring pioneers of science, whose venerated names, now become household words, are linked together for ever in the history of human progress, known and honoured throughout the whole civilised world. Yet who in the age of Watt, even in the boldest flights of presaging imagination, could have foretold such wondrous conquests over space and time as the spectroscope, the electric telegraph, and the telephone have revealed? But I forbear from dwelling longer on the incentives to exertion held out to all by the numerous physical sciences which have so many gifted exponents, before whom it becomes a non-expert to be rather a listener than a speaker. May all honour and success be theirs in sounding the mysterious depths of nature, and drawing into light the essential order which underlies her seeming complexities, ruling them with the necessity of intelligible relations. Many and various are the marvels with which "the world of eye and ear" surrounds us, inviting adventurous search into their far recesses; but as human thought advances, winning ever wider triumphs in solving riddle after riddle, must not the further question force itself upon us, What of this power which reads and interprets nature? Beside and beyond the outward and visible, linked to it by mysterious connection, is the sphere of thought, of mind, the home and dwelling-place of thought. What is this being of ours which thinks, plans, and wills? What means it? Whither tends it? This, the question of questions, from far distant periods, souls possessed with profound genius have dared to ask and yearned for a reply. When no complete reply was gained, they yet toiled on, finding in the search food for deeper and more reverent wonder than even in the splendid picture which outward nature displays. They held fast the courageous and hopeful faith that for man who 'names the name Eternity,' 'there must be answer,' here or elsewhere to his trembling doubt, to his 'obstinate questionings.' Such searchers were the early Greek philosophers, who kindled a spark amid surrounding darkness, destined not to die out, but gradually to brighten by careful tendance, and grow into a light that will shine to all coming times, as successive generations of inquiring spirits look up to the great names of Plato and Aristotle as loftiest among their guides and forerunners. In the unsurpassed lucidity of diction exhibited by these two masters, we are led into the very foundry of ideas, and can follow the subtle process of new-born thought growing clearer to itself, and shaping language into its close-fitting outward vesture."

THE Queen has intimated through Sir Henry Ponsonby that she will contribute 50*l*. to the guarantee fund in connection with the approaching visit of the British Association to Aberdeen. The fund is now almost completed. We learn that the nomination as President of the British Association at the Birmingham meeting in 1886 has been offered to Sir William Dawson, C.M.G., LL.D., F.R.S., principal of McGill College, Montreal, and that he has telegraphed his intention of accepting the honour.

AN important meeting was held on Monday at Marlborough House, under the presidency of the Prince of Wales, in connection with the Colonial and Indian Exhibition of 1886. The Prince of Wales, in an address of some length, stated the objects of the Exhibition, which is likely to form one of the most attractive and instructive of any recently held at South Kensington. As the Prince stated, the objects for which her Majesty has been pleased to appoint this Commission are, briefly, to organise and carry out an exhibition by which the reproductive resources of our colonies and of the Indian Empire may be brought before the people of Great Britain, and by which also the distant portions of her Majesty's dominions may be enabled to compare the advances made by each other in trade, manufactures, and general material progress. No such opportunity of becoming practically acquainted with the economic condition of our colonies and the Indian Empire has ever been afforded in this country. A guarantee fund of 128,000*l*. has already been secured, though it is not likely that any of this will be required.

THE following are the Royal Institution lecture arrangements after Easter:—Prof. Gamgee, eight lectures on digestion and nutrition, on Tuesdays, April 14 to June 2; Prof. Tyndall, five lectures on natural forces and energies, on Thursdays, April 16 to May 14; Prof. Meymott Tidy, three lectures on poisons in relation to their chemical constitution and to vital functions, on Thursdays, May 21, 28, June 4; Mr. W. Carruthers, four lectures on fir-trees and their allies, in the present and in the past, on Saturdays, April 18 to May 9; Prof. Odling, two lectures on organic septics and antiseptics, on Saturdays, May 16, 23; and Rev. C. Taylor, two lectures on a lately discovered document, possibly of the first century, entitled "The Teaching of the Twelve Apostles," with illustrations from the Talmud. The Friday evening meetings will be resumed on April 17, when Prof. S. P. Langley, of the Alleghany Observatory, Pennsylvania, will give a discourse on sunlight and the earth's atmosphere.

ON March 25 the Sunday Society held a National Conference at St. James's Hall with the authorities and officers of museums, art galleries, and libraries which have been open in the United Kingdom on Sundays. There was a good attendance, those present for the most part being representative men; a large number of ladies were present. Prof. Corfield, the Chairman of the Committee, presided. The chairman having briefly opened the proceedings, official statements respecting the Sunday opening of the following institutions, which are supported by public money, were submitted by different speakers:—National Museum and Exhibition of Pictures at Kew; National Picture Galleries at Hampton Court Palace; National Picture Gallery at Greenwich Hospital; National Gallery, Dublin; National Museum of Science and Art, Dublin; Birmingham Art Gallery and Library; Manchester—six Free Public Libraries; Middlesborough Free Public Library; Newcastle-upon-Tyne Free Public Library; Stockport Museum; Stoke-upon-Trent Free Library and Museum; Wigan Free Public Library. Each of these official statements spoke of satisfactory results as the outcome of Sunday opening, the statements by Mr. Valentine Ball, F.R.S., Director of the Dublin Science and Art Museum; Mr. Caddie, Principal Librarian and Curator of the Library and Museum in Stoke-upon-Trent, and by Major Turner, Chairman of the Stockport Library and Museum, being specially exhaustive and interesting. The Rev. Septimus Hansard, M.A., rector of Bethnal Green, proposed the following resolution:—"That the facts submitted to this Conference respecting those public museums, art galleries, and libraries which have been opened on Sundays in the United Kingdom are most satisfactory, and it is hereby resolved that they be embodied in petitions to be presented to the Lords of the Treasury and the House of Commons, praying that the trustees of the British Museum and the National Gallery may be provided with the money required to enable them to open these institutions on Sunday afternoons." This was seconded by Mr. John Westlake, Q.C., LL.D., and supported by a great many speakers, including Mr. Wyles, of Coventry; Mr. Freak, of the National Boot and Shoe Riveters' Society; Mr. Steele, J.P., of Rochester; Mr. Faulkner, M.A., of Oxford; Mr. R. M. Morrell, Mr. H. Rutherford, and Mr. Mark H. Judge. The resolution was carried unanimously.

MR. THOMAS FLETCHER, of Warrington, gave a useful lecture on "Smokeless Houses and Manufactories" at the Parkes Museum on March 26. In concluding his lecture, Mr. Fletcher said:—"The ground has been cleared by independent experimenters, and I think it may fairly be said that both houses and all manufacturing industries can be profitably carried on absolutely without smoke, and it is simply a question of time as to when this state of things becomes general throughout the world. Some people are afraid that when after a short time the coal supply of England is exhausted, the predicted New Zealander, when he sits on the ruins of Westminster Abbey, will be able to live on the rabbits caught amongst the ruins; but if gaseous fuel is adopted in our houses and flameless regenerative furnaces are used in our manufactories it is probable that the coming New Zealander will have to defer his visit for a length of time which the present generation need not consider; in fact, we shall be able to import our fuel from unexhausted countries, and hold our own against them after our coal is all gone. The future of gaseous fuel is settled beyond all question on the best of all possible grounds, that it is profitable to use, and users of solid fuel will soon discontinue their present system when they learn their position in the matter."

From a letter addressed by the Rev. Edward Reynolds, of Rowland, Limestone County, Alabama, United States, dated September 23, 1884, to the Krakatoa Committee of the Royal Society, we take the following extract:—"Soon after becoming acquainted with the zodiacal light, I began to notice red sunsets. After a few years I noticed that they invariably followed the commencement of the zodiacal light, and continued about the same length of time—that is, about two or three months. I seldom failed to call the attention of my friends and neighbours to these phenomena. Until this last display of the zodiacal light, and its invariable attendants, the red sunrises and sunsets, I have always accounted for the redness by supposing it to be caused by the oblique passage of the sun's rays through his nebular train. But this season I have been obliged to give up that theory, because the redness has continued after the disappearance of the zodiacal light. It is now more than ten months since their commencement, about November 13. They still continue to show no signs of abatement, but rather increase in vividness. Hence, I infer that the immediate cause of the redness is within the atmosphere, rather than in the distant and invisible nebulous train of the sun. We have not this season had a single day nor hour of clear, blue sky, such as is common in ordinary years. We have had plenty of *cloudless* days, but none of the pure blue. There is a yellowish, creamy whiteness, especially far and wide about the sun, even at midday. In looking across a forty-acre lot there is, at all times of the day, a peculiar blueness in the atmosphere, whilst at night not more than a third or half of the stars can be seen. The freer from clouds the heavens are, the more distinctly do the red sunrises and sunsets appear; and so of the other appearances of the atmosphere I have mentioned. During the evenings following November 13 last I was able to see the zodiacal light but a few times, and then very indistinctly. I watched long for an opportunity to show it to my friends and neighbours, but failed to find an evening when it could be seen by unpractised eyes. It has never been so before, since my attention was called to this subject forty-four years ago."

The following account, we learn from *Science*, of unusual phenomena was received, March 10, at the Hydrographic Office, Washington, from the branch office in San Francisco. The barque *Innerwick*, Capt. Waters, has just arrived at Victoria from Yokohama. At midnight of February 24, in latitude 37° north, longitude 170° 15′ east, the captain was aroused by the mate, and went on deck to find the sky changing to a fiery red. All at once a large mass of fire appeared over the vessel, completely blinding the spectators; and, as it fell into the sea some fifty yards to leeward, it caused a hissing sound, which was heard above the blast, and made the vessel quiver from stem to stern. Hardly had this disappeared, when a lowering mass of white foam was seen rapidly approaching the vessel. The noise from the advancing volume of water is described as deafening. The barque was struck flat aback; but, before there was time to touch a brace, the sails had filled again, and the roaring white sea had passed ahead. To increase the horror of the situation, another "vast sheet of flame" ran down the mizen mast, and "poured in myriads of sparks" from the rigging. The strange redness of the sky remained for twenty minutes. The master, an old and experienced mariner, declares that the awfulness of the sight was beyond description, and considers that the ship had a narrow escape from destruction.

The United States Bureau of Education have printed and distributed an address, by the Rev. A. D. Mayo, on the subject of education in the South, which, balloon-like, may raise some heavy hearts by its very inflation! He urges the folly of casting upon the ignorant mass of either race the responsibility of educating itself, and he tries to rouse enthusiasm like his own among Southerners who are educated; urging the first call upon local taxes to which education is entitled; the amount of voluntary effort which may be made by both males and females, who appreciate his views and will qualify themselves for teachers; and the small importance of buildings, books, or apparatus, where a school has been commenced from the "soul end," good teacher.

It is unquestionable now that the new trigonometrical survey which has been made in the Netherlands (especially by the late Mr. Stamkart) for the European Commission since 1864 is not sufficient for the purpose for which it was undertaken, and the second chamber of the "Staten Generaal" has lately voted the money required for doing the work over again. Strange to say, it was the Minister himself who objected to this item, saying that as long as Mr. Stamkart lived, his colleagues (the other Dutch deputies to the European Commission) had made no objection to his work, and consequently he feared that perhaps later it might be said that the survey now proposed would also have to be done over again. Though it is to be regretted that such is the case, we cannot wonder at the Dutch Government objecting to such an expense, after its experience both in the Netherlands and in the Dutch East Indies.

There is a curious analogy in China to the English custom of burying suicides at cross-roads, with a stake through their body. The body of the *felo de se* who is so irreverent as to commit self-destruction within the precincts of that portion of Peking in which the Imperial Court is situated, is solemnly brought to some public place, such as a bridge, and there flogged.

The inaugural address of the President of the Leicester Literary and Philosophical Society on the jubilee of the Society, which has been published separately (Leicester: Clarke and Hodgson) is characterised by a circumstance which is probably unprecedented in the history of societies. The President for the year is Dr. George Shaw, who was the President, and who delivered the first address to the Society fifty years ago; the same President of a society at its formation and at its fiftieth anniversary is a coincidence of peculiar interest. Dr. Shaw was naturally retrospective, for he described the labours of the founders, and the progress which has been made in the half century. The little pamphlet should be of use to all interested in steering young societies through the rocks and shallows which beset all enterprises in the earlier stages of their existence. In the case of the Leicester Society the stages were: (1) the papers were too dry and abstruse, and no one attended—learning was suffocating the infant; (2) they became popular, less philosophical, and more literary, to the detriment of severer study—the infant's constitution was being destroyed by sweets; (3) popular public lecturers began to be employed in an increasing ratio, and their presence was indicative of a want of energy amongst its members. After his biography of the Society, Dr. Shaw discusses the spirit of the present age, and the members of the Leicester Philosophical and Literary Society were to be congratulated if their presidential address fifty years ago were anything like so vigorous, encouraging, and abreast of time as that on their jubilee.

Mr. Adam Sedgwick has in preparation a new book, to be entitled "The Elements of Animal Biology," which is intended to serve as an introduction to the study of animal morphology and physiology. Messrs. Swan Sonnenschein and Co. are to be the publishers.

Dr. Buller, of Wellington, New Zealand, is preparing for the press a new and enlarged edition of his "History of the Birds of New Zealand." The "history" will comprise a general introduction on the ornithology of New Zealand, a concise diagnosis of each bird in Latin and English, synoptical lists of the nomenclature, and a popular history and description of all the known species, brought down to the latest date. It will be published in parts, each containing not less than ten coloured plates. The size will be large quarto.

MESSRS. ASHER AND CO. announce as just ready "The Chittagong Hill Tribes," results of a journey made in the year 1882 by Dr. Emil Riebeck, Ph.D., F.R.G.S., translated by Prof. A. H. Keane.

THE Oyster Fishery in the United States employs 53,805 persons, and yields 22,195,370 bushels of oysters, worth 30,438,852 dollars. In France 32,431 persons are engaged in the industry, which produces 43,307*l.*, and in Great Britain 3,000,000*l.* The oyster industry is rapidly passing from the hands of the fishermen into those of oyster culturists, and in the United States is carried on in so reckless a manner that the Government are being urged to interfere in the matter.

WE have received a copy of "Ellis's Irish Education Directory." The part of the book relating to "National Education" has been remodelled so as to make it a complete guide to the National System. The "Irish Educational Guide and Scholastic Directory" has now been incorporated with "Ellis's Irish Education Directory."

AT the last meeting of the Seismological Society of Japan (as reported in the *Japan Weekly Mail*) Prof. Koto read a paper on the "Movement of the Earth's Crust," as these have been observed in Japan. It appears that the south and east coasts are gradually rising, while the north and west coasts are subsiding. This phenomenon is directly connected with the intensity of seismic activity along the eastern seaboard, almost every earthquake felt in the capital cooming from a region extending from north-east to south-east or nearly south, while hardly any originate in the west. Mr. Sekiya described in detail the great earthquake of October 15 last year. It was attended by unusual barometric variations. The thermometer, which averaged 16° C. during the month, rose to 27° immediately before the shock, while the wind blew with a force of 43 kilometres per hour. The shock occurred at 4′ 21″·54 after midnight, and lasted for 5′ 20″, during which time no less than 200 complete vibrations were recorded. During the first second the motion of the earth measured only 2·5 mm., but rose to 13 mm. in the third, and reached its maximum intensity of fully 42 mm. in the fourth second. The shock was then travelling with a velocity of 200–280 mm. in the second. Over a hundred reports were received by the Meteorological Bureau from various parts of the country, from which it appeared that the area affected by the shock was 24,728 square miles. Eighty-six per cent. of the pendulum clocks in Tokio were stopped, and much damage of the kind usual in these shocks was done. Mr. Sekiya states that this earthquake was the severest since February 22, 1880, to which it was remarkably similar in many ways. Both originated somewhere on the east side of the Bay of Yedo, and both affected the same area. In both instances the origin of the shock was in all probability due to the formation of a subterranean fissure.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus*) from India, presented by Miss Pyne Hamilton; a Blaubok (*Cephalophus pygmæus*) from South Africa, presented by Mr. A. Best; a Russ's Weaver-bird (*Quelea russi*) from West Africa, presented by Mr. J. Abrahams; a Long-eared Owl (*Asio otus*), a Common Buzzard (*Buteo vulgaris*), a Common Kestrel (*Tinnunculus alaudarius*), European, presented by Mr. Scott B. Wilson; two Ravens (*Corvus corax*), British, presented respectively by Mr. J. Bradley, jun., and Mr. Gerard Sloper; a Common Lizard (*Lacerta vivipara*), British, presented by Mr. Stanley S. Flower; a Wattled Starling (*Dilophus carunculatus*) from South Africa, purchased; a Common Otter (*Lutra vulgaris*), British, received on approval.

OUR ASTRONOMICAL COLUMN

A STAR WITH LARGE PROPER MOTION.—Dr. Gould notifies the probable existence of very large proper motion in a star of a little below the eighth magnitude, which is No. 1584 of Hour xxiii. in the Cordoba Zone Catalogue; the position for 1875·0 is in R.A. 23h. 58m. 1·85s., Decl. −37° 58′ 18·8″, consequently in the constellation Sculptor. From observations between 1872 and 1884 Dr. Gould infers an annual proper motion of +0·4823s. in right ascension, and −2·4479″ in declination, or 6·2057″ in arc of a great circle in the direction 66° 46′ east of south. This direction, he remarks, differs from that of Lacaille 9352 (which is 15° distant) by 34°. The large proper motion of Lacaille's star, one of 7·5m., was also detected by Dr. Gould; it amounts to 6·9565″; so that it had moved over 14¼ minutes of arc between the year 1752 and the time of the Cordoba observations about the end of 1876.

The annual proper motion of the star, Groombridge 1830, the largest yet remarked in a star north of the equator, is 6·976″, as determined by Argelander in 1843.

WOLF'S COMET.—This comet was observed for position with the 8-inch refractor at the Observatory of Kiel, on March 12, when its distance from the earth was 2·24, and that from the sun 1·94, so that the theoretical intensity of light was just one-tenth of the amount on the night of discovery, September 17. As there is a possibility that the comet may yet be observable with larger instruments during the next period of absence of moonlight, Dr. Lamp has continued his ephemeris from Prof. Krüger's second elements, and a few places are subjoined—

At Berlin Midnight.

	R.A.	Decl.	Log. Distance from	
	h. m. s.	° ′	Earth.	Sun.
April 3	4 19 44	+3 7·3	0·4030	0·3144
5	24 6	3 16·9		
7	28 28	3 26·1	0·4118	0·3193
9	32 49	3 35·0		
11	37 9	3 43·5	0·4204	0·3242
13	41 28	3 51·5		
15	4 45 47	+3 59·2	0·4288	0·3290

THE APRIL METEORS.—The earth will arrive at the descending node of the first comet of 1861, with which the Lyra-meteors of April have been supposed to be connected, on the morning of the 20th inst. In 1861 the comet at this node passed only 214,000 miles within the orbit of the earth, and the elements assign for the radiant R.A. 270·7°, Decl. +33·5°. If the present form of the comet's orbit is due to planetary action at some distant epoch, it is quite as likely that the planet Saturn was the disturbing body, as that it should have been the earth. With the elements of 1861 we find that at a true anomaly of 144° 43′, the comet's distance from the orbit of Saturn is only 0·11, and this point would be reached 2·48 years after perihelion passage. The period of revolution, according to the definitive investigation of Prof. Oppölzer, is 415 years.

ASTRONOMICAL PHENOMENA FOR THE WEEK, 1885, *APRIL* 5–11

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on April 5

Sun rises, 5h. 28m.; souths, 12h. 2m. 38·2s.; sets, 18h. 38m.; decl. on meridian, 6° 15′ N.: Sidereal Time at Sunset, 7h. 35m.

Moon (at Last Quarter on April 7) rises, 23h. 49m.*; souths, 4h. 19m.; sets, 8h. 48m.; decl. on meridian, 17° 56′ S.

Planet	Rises	Souths	Sets	Decl. on meridian
	h. m.	h. m.	h. m.	° ′
Mercury	5 46	13 11	20 36	15 22 N.
Venus	5 23	11 37	17 51	1 58 N.
Mars	5 13	11 22	17 31	1 2 N.
Jupiter	13 41	20 58	4 15*	13 56 N.
Saturn	8 11	16 17	0 23*	21 55 N.

* Indicates that the rising is that of the preceding and the setting that of the following day.